Recovery efforts pay off

Warehouse avoids costs

Top 10 stories

Winter sports safety



WESTERN AREA POWER ADMINISTRATION

DECEMBER 2021









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On the cover

These 230-kilovolt transmission lines near the border between South Dakota and Nebraska are part of WAPA's transmission system in the Southwest Power Pool footprint. (Photo by Karen Rowe)





Fish Biologist Craig Ellsworth, pictured here in 2003 during his first trip working with humpback chub in the Little Colorado River, is one of many WAPA employees who has been involved with the fish's recovery since the 1980s.

Recovery success: Chub no longer endangered



n Oct. 18, the Fish and Wildlife Service published the final rule to reclassify the humpback chub from endangered to threatened in the *Federal Register*. This is the result of many years of dedicated recovery efforts, and it represents significant progress.

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The reclassification is the result of collaboration between state, regional, Tribal and federal organizations, including WAPA, as well as private partners, with the fish now considered "threatened" under the Endangered Species Act. This follows the publication of the proposed rule in January 2020 and subsequent public comment period.

WAPA has been involved with humpback chub recovery efforts for decades.

"From the very beginning of the programs, and going back to the first days of the Glen Canyon Dam Adaptive Management Program and the Recovery Implementation Program, we have been involved," said Fish Biologist **Shane Capron**. "From all the way back in the '80s."

Capron was one author of the species status assessment that led to the downlisting and is a member of the humpback chub recovery team.

"On that team, I argued the science of why chub are not 'in danger of going extinct,' which is the key question when determining if a species is endangered or just threatened," explained Capron. "We have supported a variety of recovery policy objectives, including a proposal that I developed to reintroduce humpback chub to the Yampa River, which is an ongoing but key project to recovery."

Colorado River Storage Project
Management Center employees have
participated in many research trips to
support the science teams in Grand
Canyon, helping to monitor and count
humpback chub. They also helped
the U.S. Geological Survey's Grand
Canyon Monitoring and Research
Center to develop experiments.

Many of these experiments were intended to benefit native fish, such as bug-flow experiments aimed at boosting available food, and others have tested methods to support the populations of humpback chub with as little impact on hydropower as possible.

"Some experiments have worked, others haven't, but that is the nature of learning," Capron said.

Specific examples include the Spring Disturbance Flow in March and the Flow Spike Experiment in June.

Public comments helped shape the final rule, which includes updated monitoring data and information on

the potential effects of climate change on water availability in the Colorado River Basin.

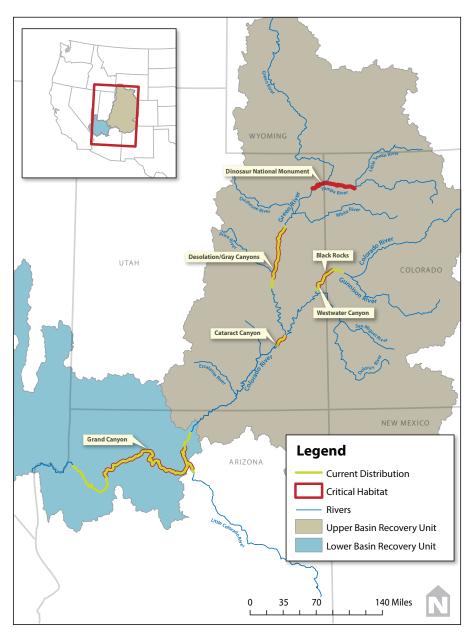
In their press release on the subject, FWS Acting Regional Director Matt Hogan described the action as the result of collaborative conservation.

"Reclassifying this distinctive fish from endangered to threatened is the result of many years of cooperative work by conservation partners in the Upper Colorado River Endangered Fish Recovery Program and the Glen Canyon Dam Adaptive Management Program," Hogan said. "We thank everyone involved for their efforts as

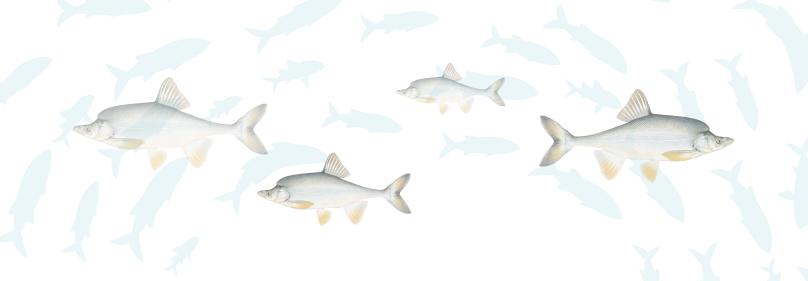
we look toward addressing the remaining challenges in the Colorado River Basin."

The humpback chub was included on the FWS's very first list of endangered species in 1967, and it's stayed there ever since.

The humpback chub was first documented in the Lower Colorado River Basin in the 1940s and the Upper Colorado River Basin in the 1970s. It has adapted to live in the whitewater found in the river's canyon-bound areas, with large, curved fins that allow it to swim in swift currents. It has a fleshy hump behind its head,



This map, originally created by Julie Stahli of the Fish and Wildlife Service, shows the occupied range and critical habitat of the humpback chub.



which evolved to make it harder for predators to eat them and gave the humpback chub its name.

"These are very interesting and unique fish that only live in the Colorado River," said Capron. "If we lose them, they are gone forever. They are dinosaurs in a way, having been around for millions of years, but they also represent something much more in regard to the rivers and maintaining our heritage for us and native peoples, about maintaining the ecosystems and the landscape that we all think is important."

For more information on humpback chub recovery efforts, see "Chub swims away from endangered status" in the June 2018 issue of *Closed Circuit*.

According to the FWS, conservation and management efforts "have resulted in improved habitat and river flow conditions for the humpback chub over the past 15 years."

They also noted humpback chub population successes in particular areas, such as Westwater Canyon being home to more than 3,000 adults and the presence of more than 12,000 individuals at the confluence of the Little Colorado River and the Colorado River.

In addition, they cited increasing densities in the western Grand Canyon and successful reintroduction at Havasu Creek and upstream portions of the Little Colorado River, as well as the stabilization of populations in the Black Rocks, Desolation, Gray and Cataract canyons. All populations in the Upper Basin have stabilized or increased, even as Lake Powell elevations have declined.

Capron has seen the difference with his own eyes.

"On one of my recent river trips in Grand Canyon, we started seining all the backwaters looking for native fish as we went downriver, something we hadn't done for a long time," he said. "What we noticed was that, almost wherever we stopped and found a backwater area, we found native fish like chub and others. It was part of this change going on in the canyon where we went from a non-native dominated river to one that is now dominated by native fish. It was a really spectacular change."

Of course, all of this good news does not mean that the humpback chub is out of the woods just yet.

"The main issues are non-native predators in the upper basin, and in the lower basin in Grand Canyon it is the condition of spawning areas in the Little Colorado River," Capron explained. "We also need to recover the extirpated population in the Yampa in Dinosaur National Park. That was a project we proposed and supported. We're hoping in the next three years to begin moving fish there. Showing that we can recover a lost population is an important part of recovery."

As part of this downlisting, the FWS has finalized a 4(d) rule that reduces the regulatory requirements for state fish and wildlife agencies and other nonfederal stakeholders when working to protect and recover the humpback chub. The term "4(d) rule" refers to protective regulations issued under section 4(d) of the ESA for threatened species.

Examples that they provided of this work include creating refuge populations, expanding the range of the species, removing non-native fish species and creating catch-and-release fishing opportunities.

"When I came on to work with WAPA in 2007, the opinion was that humpback chub recovery was not good," said Capron. "Nobody was talking about downlisting. I have been involved with numerous teams, discussions and failed draft recovery plans over the years, and it took a decade of arguing to help change people's minds about recovery."

He emphasized that recovery is a process rather than an overnight change, and that downlisting can be a helpful way to show progress and build support.

"I think there has been a change in opinion, not complete but a movement in the right direction, with these downlistings," Capron concluded. "That is a part of the story here, that by doing well and rewarding stakeholders, in my opinion, this is the way to recover the fish and build that support to keep going."

Endangered or threatened?



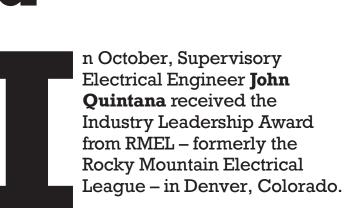
The difference between an endangered species and a threatened species is defined by the federal Endangered Species Act of 1973.

- An endangered species is in danger of extinction throughout all or a significant portion of its range.
- A threatened species is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

In plain language, endangered species are on the brink of extinction now, whereas threatened species are likely to be on the brink very soon.



Engineer receives Leadership Award



"The Industry Leadership Award recognizes individuals whose leadership has made contributions that have made an impact within their organization," RMEL said in its press release. "Recipients usually have more than 10 years of experience in the industry. These individuals are often active in various industry affiliations, associations and/or organizations that serve the electric energy industry."

RMEL is a not-for-profit energy trade association that has provided the electric utility industry with education and networking services since 1903.

Closed Circuit sat down with Quintana to discuss the award.

Tell us a little bit about your background.

I wanted to be an electrical engineer since I was in high school, and became interested in the electrical utility industry in my junior year in college at New Mexico State University. I had a couple of professors in the college of engineering who got me interested in power transmission, distribution and generation.

Unfortunately, when I graduated there were not many utility jobs close to New Mexico, where I grew up. I blame that on NMSU, the University of New Mexico and the Colorado School of Mines having strong engineering colleges. As a result, I started my career as an electronics engineer at Hughes Aircraft Company in Fullerton, California.

I stayed with Hughes for two years until I landed a job in Golden, Colorado, working for a small company that was under contract with WAPA. I felt like the luckiest person alive to get that job!

I was offered the job during the interview and couldn't wait to move to Colorado. After working there for three years, WAPA did not renew that contract, but I was able to apply for an opening before the contract expired and again was blessed to get the best job ever working for WAPA! That was July 1991, and the rest is history.

Can you explain your role at WAPA?

My current function is the transmission asset maintenance manager under the Asset Planning and Management Office.

I provide oversight and coordination of Power System Maintenance Policy, which includes the maintenance program, maintenance management, project management, maintenance safety, labor issues and facilitation and coordination.

How does it feel to be recognized this way?

It is very humbling to even be considered for this recognition.

When Rick Putnicki called me up to tell me that I received this award, I first thought he was kidding, and it took a while for it to sink in. When he said he was serious, I was speechless.

For all the amazing educational and networking opportunities that RMEL provides to the electrical power industry and the hard work that the RMEL staff does to make the events successful, they are the ones deserving recognition!

What has been your experience with RMEL?

I first became introduced to RMEL in 2010 and served as transmission section chairman from 2010 to 2015. I have continued to serve on the committee, representing WAPA to this day.

Being involved with RMEL and on this committee has benefited me personally in many ways that go beyond RMEL's mission of education and networking.

While serving as chairman, it provided me with opportunities to present to RMEL's Board of Directors, facilitate several roundtable discussions – some topics were brand new to me – as well as present at various conferences. It has kept me out of my comfort zone, which forced me to grow and develop new skills!

Of what professional accomplishment are you most proud?

I would have to say my role in developing WAPA's arc flash program. WAPA has two *Power System Maintenance Manual* chapters that I drafted that address the arc flash hazard exposure for high and low voltages.

Developing these policy documents required me to put a team together of subject matter experts, union and management representatives and safety mangers to come to agreement with the processes and procedures that are currently in place today, which most of the industry follows.

What is your definition of a good leader?

A good leader has a clear vision and can communicate it well and is willing to make sacrifices for a greater cause, having the humility to put themselves and their needs last. A good leader has a strong moral compass and can motivate and inspire others.

Some people seem to be born with all of these gifts.

What is one piece of advice you have for WAPA employees wishing to grow and develop as leaders?

If I could only give one piece of advice, I would have to say, "Get out of your comfort zone."

Yes, there will be times that you will mess up, possibly embarrass yourself or make mistakes, like I have and which I keep in my memory bank for constant reference.

But if you are humble enough to acknowledge and learn from your mistakes, and don't retreat to your comfort zone, you will keep moving forward.

Mistakes are part of the learning process, so from that standpoint I can honestly say I've learned a lot throughout my career!



Though the birds have made a substantial comeback today and can be found on every continent except Antarctica, osprey nests that wind up on transmission lines can cause damage not only to the line and surroundings, but to the birds themselves, making their removal critical for WAPA, customers and the formerly endangered species alike.

These birds often build perch di large nests with thick sticks, and often build on human-made platforms because they prefer to nest in areas without overhead foliage. Unfortunately, this makes transmission lines appealing real estate prospects for the ospreys.

On Sept. 8-10, WAPA's Craig, Colorado, line crew and other supporting crews, including Helicopter Pilot **Rory Kirkendall**, removed several osprey nests and installed perch discouragers on the Windy Gap-to-Granby Pumping Plant No. 1 and No. 2 double-circuit transmission line in Grand County to improve reliability for the line and help protect the birds.

The perch discouragers were ordered the previous winter in anticipation of and preparation for installation after the end of the 2021 nesting season. This work was performed by helicopter with biological monitoring provided by Natural Resource Specialist **Mark Suchy**.

"The name perch discourager is a bit of a misnomer," said Suchy. "They're really breeding and nesting discouragers, as opposed to the traditional perch discouragers. Traditional perch discouragers often look like little spikes, and the ones we installed on this project look less intrusive and dangerous."

The line had recently been rebuilt with monopoles, and with the food-rich environment around Lake Granby, Shadow Mountain Lake and Grand Lake it was only a matter of time before the raptors moved into the unintentionally perfect nesting spots atop the lines.

Complicating the matter further, ospreys can use a variety of materials when building their nests, and carry



Crews, including Lineman *Tyler Delay*, removed osprey nests and installed perch discouragers in Grand County, Colorado. (Photo by *Mark Suchy*)

prey materials to their nests, which they will return to for up to 25 years.

As the birds nest and perch on the structures, there's also the possibility for streamers – lines of bird excrement – that can form an alternate pathway for electricity to flow through. With these issues, allowing the birds to continue using the structures for nesting platforms would pose further risk not only to the ospreys, but also to the safety of the linemen and the power system itself by causing a potential interruption, outage or even a fire.

"The original intent of perch discouragers was to prevent the birds from perching on a surface," said Environmental Protection Specialist **Andrea Severson**. "However, some of the older designs sometimes made it easier for birds to nest and helped create nesting problems. The cones we use now not only help discourage perching but also help discourage nest placement."

"This is a balancing act between preserving the integrity of our grid and not being too disruptive to the birds, and I think we did a great job," said Suchy. "We wanted to be good stewards, so we waited for the optimal time to remove the nests: after the osprey breeding season."

Adding the perch discouragers adds to the reliability of the grid in the area.

"The structures are near the western entrance of the Rocky Mountain National Park and are highly visible to residents and tourists, so the results of our cross-department efforts are in public view," Suchy continued. "It's a continuous collaboration between all of WAPA's departments to maintain facilities, structures, lines and vegetation to keep our workers, the community and the environment safe."

The good news today is that ospreys are thriving, both in the Grand County area and in the world at large, in no small part due to conservation efforts and avian protective measures.

"When we rebuilt this line, I don't think we fully anticipated the scale of the osprey issue," Severson concluded. "It's been a good learning experi-

ence for us so that in the future we can think proactively in terms of reliability and avian protection when our work intersects with the habitat for these birds." \square

Note: The author is a secretary who works under the Miracorp contract.

Fast osprey facts

 Ospreys were once on the endangered species list because of pesticide poisoning.



DDT used in the 1950s and 1960s caused thinning of egg shells.

- Ospreys have made a successful comeback and can now be found on every continent except Antarctica.
- Ospreys build large nests with thick sticks.
- Ospreys are migratory birds that return to the same nest for up 25 years.
- Ospreys are usually monogamous and sometimes bond for life.
- Ospreys are raptors which hunt prey that is relatively large compared to the size of the bird.
- Ospreys eat mostly fish.
- Ospreys weigh an average of four pounds with a wingspan of up to six feet.
- Ospreys often build nests on humanmade platforms because they do not like overhead foliage.
- Ospreys are the official mascots of Stockton University.

Insulator storage improvement avoids costs By Jen Neville forklift hums down an aisle of the large, open warehouse in Loveland, Colorado, where staff transports the latest supply shipment to its proper storage area. The warehouse is the main supply hub for Rocky Mountain. Supply Technician Lead Jarrod Birdsall and Warehouse Specialist Doug St. Marie demonstrate a new method of storing insulators, which uses the space more efficiently and avoids more than \$176,000 in future costs. (Photo by Patrick Kearney) Closed Circuit

"It seems big, but we run out of space frequently," explained Supply Technician Lead **Jarrod Birdsall**, who works under the Alexton contract. "We are constantly trying to figure out how to make the space more efficient and as effective as possible."

In October, the Loveland warehouse staff made a simple change to its storage configuration that uses the space efficiently and avoids more than \$176,000 in future costs by preventing injury and saving work time. Doing so required innovation to meet the demands that WAPA has of its warehouse services.

Inventory supports maintenance work

The staff is constantly tracking and managing inventory to ensure that WAPA has the equipment, tools and supplies for the jobs at the Loveland complex and in the field. Inventory includes polymer-fiberglass insulators, which can range in size and weight from 50 to 250 pounds each.

Several years back, the team started keeping the insulators inside the facility.

"Although insulators are used outdoors, a climate-controlled environment protects them from harsh weather conditions and rodents until they are ready for use," said Inventory Management Specialist **Ed Fernandez**.

However, there was a major question to answer: How could they store more equipment in the already full space?

"We tried hanging the insulators on rubber-coated hooks but, over time, the ceiling hooks straighten out and weaken under the weight," explained Warehouse Specialist **Doug St. Marie**, who works under the Alexton contract. "It's a two-person job. It's not easy to hang them up and then rehang them when the hooks straighten out."

The warehouse staff defaulted to simply keeping the insulators in the



The improved storage of insulators, pictured here, increases safety and storage efficiency. (Photo by $Doug\ St.\ Marie$)

shipping crates until a crew needed them.

"It just got frustrating," St. Marie said. "The Maintenance team would have to wait while we unpacked the crate, or we would have to move the crate out of the way to get to other equipment for them."

The team needed a more sustainable solution.

Storage innovation prevents injury

"Ultimately, it was Doug's idea," said Birdsall. "He was talking with one of the mechanics about how a shackle system would support the hanging insulators better."

St. Marie figured out how to use materials already stocked at the warehouse to create hanging shuttle racks to slide the insulators in and out. In October, he and Birdsall modified the insulator storage area between their regular work tasks.

"Jarrod and Doug applied their construction skills to improve an area inside the Loveland warehouse to safely stock and remove a variety of insulators," said Fernandez.

Safety was a key driver for this improvement effort. By securely storing the insulators, the warehouse staff is reducing the risk of a potential workplace injury.

"By utilizing Chapter 3 of WAPA's Power System Safety Manual, we ask that warehouse employees correct unsafe conditions," said Safety and Occupational Health Manager **Tim Duffy**. "This is a perfect example of that."

The improved storage of insulators enhances safety in many ways, making injuries less likely. For example, employees could injure their backs or crush their toes while lifting and positioning one of the heavy insulators. According to the Safety Pays Estimator, hosted by the Department of Labor Occupational Safety and Health

Administration, injuries such as these could total more than \$160,000 in direct and indirect costs. Avoiding such situations is crucial.

"Safety is so important in the warehouse," said Lead Inventory Management Specialist **Patrick Kearney**. "We're constantly evolving to support the supplies and needs of the organization. Maintaining a safe work environment is critical for all of the folks coming to our warehouse."

Today, Rocky Mountain is benefitting from the warehouse update. The small change to the insulator storage configuration resulted in significant improvements that better use the space available, save time and, most importantly, create a safer work environment.

"If we all strive for safety, we can achieve it," said Duffy. "Great work to all the warehouse staff." \square

Note: The author is a management analyst.

ELIDP graduates first cohort

By Sarah P.

n Oct. 29, the Emerging Leaders Development Program graduated its first cohort of 30

individuals. The ELDP is an effort to develop a pipeline of future leaders, created by Leadership Development for rising stars within WAPA.

The program was developed in coordination with the University of Maryland, Baltimore. It covers topics such as communication, emotional intelligence, mindfulness, relationship management, building trust, culture cultivation, accountability, individual coaching sessions and how to drive engagement, all of which connect to important WAPA Leadership Competencies.

For more information about WAPA's Leadership Competencies, visit myWAPA, Programs, Leadership Development, Leadership Competency Model and Guide



The ELDP is unique in that it assesses participants' strengths, weaknesses and preferences, leading to the development of an individualized strategy for improvement. Participants learn how to "get the best" from others, establish strategic and well-defined goals, gain and maintain respect from peers and overcome difficult personnel challenges.

The program consists of three two-day sessions over a three-month period, along with one-on-one sessions with a professional coach upon completion of WAPA's 360-Degree Leadership Assessment.

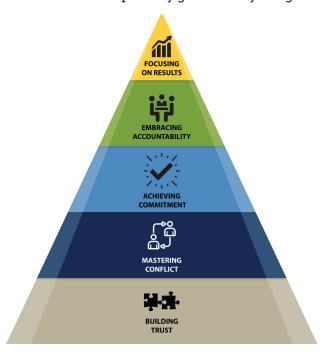
Participants self-assess their abilities in various core leadership competencies and a feedback team of eight to 12 people rates them in those same competencies. Participants then receive the anonymized results and coaching based on those responses.

The program's first session starts with insights on the leadership journeys of prominent leaders in today's world, the importance of a well-rounded, effective leader and professional goal setting. During this session, participants also learn the importance of Bragging Rights, or, in other words, how to acknowledge and self-promote their skills to others.

The second session moves to more specific leadership topics, such as Managing Up, Down and Sideways; Cultivating Your Network; and Developing Your Personal Brand. In these courses, participants learn strategies for managing at different levels and how to manage office politics, as well as shifting from a person-based to needsbased approach when developing a network.

The program wraps up with Culturally Competent Leadership; Women in Leadership; and Managing Conflict. Here, participants learn how their cultural identity informs their leadership approach, and how multicultural awareness creates environments that foster higher levels of performance.

This class flows nicely into discussion surrounding women in leadership as they gain visibility in higher-level



What participants are saying



Individuals in the first ELDP cohort describe the program in their own words.

- "The ELDP is at the top of my list for being the most meaningful and impactful professional development experience I've had."
- "I think it is something that everyone from top to bottom should go through. It was so nice to see and meet others across WAPA."
- "I learned about 'appreciative inquiry,' where the positivity should dominate in conversations versus the negative things. Be sure that the tone you are using is a positive one for a more productive conversation."
- "We learned about the Clifton Strengths and how to use each person's strengths when delegating tasks, and how to look for the cause of excellence versus the cause of the problem."
- "I'm coming out of the program with deeper insights about myself and those around me. Armed with this knowledge, I feel more prepared to encounter conflict, communicate effectively, capitalize on my strengths and recognize strengths of others, tackle my own inclusion and diversity blind spots and commit fully to empathic interaction...to name a few!"
- "My favorite take away is, 'Where the focus goes, the energy flows."

positions. The program closes with strategies to effectively resolve conflict in the workplace.

Upon completion of the ELDP, participants should be able to gain a broader understanding of the issues leaders face today and how to handle them, as well as address areas for improvement within themselves and on an organizational level.

Participants will have also gleaned a larger network of peers across the organization, sharing best practices, diverse views and opinions and more.

Leadership Development congratulates the graduates on their completion of such an involved program, and appreciates that they've taken significant steps to further their professional development and better themselves as leaders.

Those interested in participating in the ELDP should keep an eye on their email. The application period for future cohorts will be announced WAPA-wide, and there is limited space. If you're interested in this program, contact leadershipdevelopment@wapa.gov.

Note: The author is a leadership development specialist.

The Emerging Leaders Development Program is open to employees within the following pay scales:



- General Schedule: 9-12
- Administratively Determined: 2-4
- Wage Board: Journeyman, Foreman I, Foreman II



n Oct. 27, the Office of the Administrator, Public Affairs and Information Technology came together to produce the final All-Employee Meeting of the year. There were more than 1,000 attendees, making for record-

breaking AEM attendance.



The event was emceed by Auditor **Lisa O'Brien**, who contracted COVID-19 near the beginning of the pandemic in 2020. She is considered a "long-hauler" as she is still experiencing significant effects of the virus to this day. She spoke about her COVID-19 struggles and her advocacy work, supporting other long-haulers through their own challenges.

Administrator and CEO **Tracey LeBeau** provided an update on the state of WAPA, celebrating the organization's resilience even through times of challenge.

"During times like this we need to find common ground," she said. "We all want the same thing: to be safe, healthy, provide for our families and perform meaningful work. So, please know this: We're doing our best to implement these new requirements and are working hard to get answers to your questions. Thank you for the enduring patience."

She emphasized that there is not yet a specific timeframe for a return to the workplace, but that once one is established, WAPA will plan for a six-month standardized and flexible telework pilot. The number of teleworking hours allowed per pay period will depend upon the role of the employee.

LeBeau also expressed her appreciation for two employees in particular: Senior Vice President and General Counsel **John Bremer**, who is retiring this year, and Supervisory Electrical Engineer **John Quintana**, who received RMEL's Industry Leadership Award.

Afterward, Senior Human Resources Business Partner **Nikki King** spoke about and clarified aspects of the vaccine mandate for federal employees, which required full vaccination by Nov. 22.

This was followed by Executive Vice President and Chief Operating Officer **Kevin Howard**, who spoke about Human Performance Improvement, and Public Utilities Specialist **Padmini Palwe**, who spoke about the Justice 40 Initiative.

The event concluded with an extended employee Q&A segment, facilitated by Chief of Staff **Melissa Ardis**.

Due in part to the complexity of the topics discussed at this particular AEM, the Q&A segment was especially busy. Participants answered as many questions as they could at the time, with other answers being provided afterward.

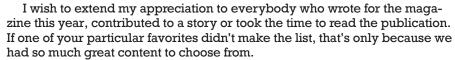
"This has been a stressful and challenging year," LeBeau said during her update. "We have described these events as unprecedented so many times that we no longer appreciate the significance of that word. Despite all these challenges, we have continued to do our jobs and make good on our promise to keep the lights on for 40 million Americans."



stories of 2021

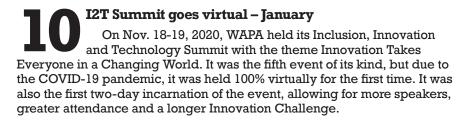
By Philip Reed

his was another year full of unexpected challenges and developments, meaning that looking backward to choose only 10 stories to spotlight was extremely difficult. The articles we published in *Closed Circuit* covered a wide range of topics, but I have done my best to curate a list of some of my favorites.



This was also the first full year in the magazine's history that *Closed Circuit* was distributed strictly digitally. Thank you to everybody who has reached out to share their views on this unplanned development. Your feedback will help shape the future of the magazine, so please do not hesitate to reach out and let me know your thoughts.

As editor, I do hope that you enjoy this look back at the year that was. See you in January.



In-house skills save millions on FIMS upgrades – March
This year, WAPA's financial management software received a series of upgrades. Compared to similar upgrades to the software that were performed in 2016, the cost was around \$5 million lower. This was due to a larger reliance on in-house expertise and a mutually beneficial partnership between Finance and Information Technology.



SN, Trinity partner for wildfire prevention – May

As wildfires become a greater risk with each passing year, WAPA has taken the initiative across its 15-state footprint to proactively protect its transmission lines and the power that they provide to customers. Sierra Nevada's partnership with Trinity Public Utilities District is just one example of these efforts, but it is an important one.

Facility closure leads to discovery of older site – November

In March 2019, Archaeologist Dave Kluth visited a WAPA communication site in Erhard, Minnesota, to perform a survey. The process of dismantling it led to an unexpected discovery, which in turn led to around two years' worth of analysis and research that unearthed the history of a family who had occupied the area more than 100 years ago.

Opening our eyes to DEI – September

Leadership Development Specialist **Sarah P**. reflects on the importance of diversity, equity and inclusion. In the process, she discusses a notification she received about Islamic holidays and the opportunity for education that it offered. She also focuses on other opportunities she's had to expand her horizons, and emphasizes the value of doing so.

■ Spring disturbance flow charts new highs, lows – June

When repairs were necessary on the apron at Glen Canyon Dam, Colorado River Storage Project Management Center employees saw their opportunity to gather crucial data about flooding...without the need for an actual flood. The data would help them to understand how to best support the health of the river, and thanks to the necessity of the repairs, they were able to do it with minimal impact to hydropower production.

WAPA's sUAS program lifts off – July

Aviation's Small Unmanned Aircraft System pilot program allowed for the support of field crews while surveying and inspecting miles of transmission line, and the devices ended up saving both time and money, as well as increasing safety for linemen. The units may even offer benefits to other WAPA programs.

Long hauler discusses one full year of COVID – April

Auditor **Lisa O'Brien** started feeling the symptoms of COVID-19 in March 2020, just after returning from a trip to Hawaii. She is still dealing with the effects today, and is classified as a "long hauler." As a result of her experience, O'Brien turned to advocacy, providing resources for other long haulers and working to ensure that they are heard and understood.

Winter energy shortage tests grid limits – May

When frigid temperatures cascaded south across the country in February, demand for electric power surged and generation faltered. Electric grids from Montana to Texas buckled under the strain. The Southwest Power Pool had to roll blackouts throughout its 14-state power grid to avert a disastrous, long-term outage. Addressing the situation required quick thinking, collaboration and partnership.

Drought conditions may impact hydropower – August

This summer, drought became an even more serious concern for many WAPA customers than it had ever been before. Employees from Desert Southwest, Rocky Mountain and Sierra Nevada spoke about the actions each of their regions has taken to address and mitigate the impacts as effectively as possible. WAPA continues to plan and collaborate with customers in this changing climate.











Loss of control, excess speed and collisions with stationary objects such as lift towers or trees are primary risk factors. Another major hazard is collision with other people.

The National Ski Areas Association promotes #RideAnotherDay, a campaign inspired by the tragic death of five-year-old Elise Johnson, who was struck by a snowboarder while learning how to ski.

Elise's parents partnered with the NSAA to promote this campaign, which "encourages awareness, responsibility and common sense to

reduce the risk of on-mountain collisions between skiers and riders."

The campaign promotes three proactive safety actions according to the NSAA: "Be ready, stay alert and plan ahead." All are rooted in situational awareness.

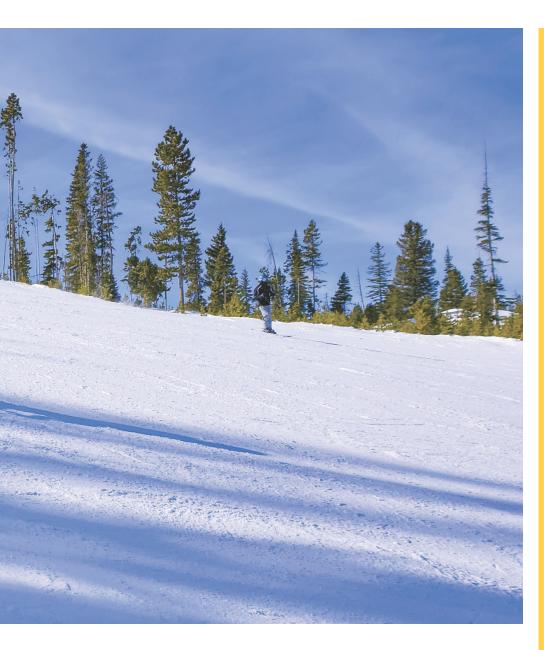
Be ready, stay alert and plan ahead

Whether you are on a groomed run or expert moguls, always be aware of objects and others. Maintain control regardless of the conditions and be ready to slow down and avoid collisions.

Always ski and ride defensively by staying alert to what is going on around you, especially changing conditions and other skiers and riders.

Slow down at blind spots, look uphill when merging onto trails and give others plenty of space when passing. Be aware of places where traffic merges or when you cannot see what is coming next.

Take it easy on first-time runs and note places where you should slow down and be cautious.



Get proper instruction and gear

Beginners should get proper instruction on the basics, including how to fall and get up properly. Also, stay in shape during the season; this will help protect against injury and fatigue.

Check the day's weather and be aware of conditions that might affect visibility and make obstacles hard to see.

Finally, wear a helmet to protect your head, and remember that traumatic brain injuries are still a risk even with the proper protection. Like a helmet, other quality equipment reduces the risk of injury. This includes properly fitted and adjusted boots and bindings, in addition to warm, layered clothing.

Have fun while skiing and snow-boarding, be safe, watch out for others and remember to ski and ride another day. \Box

Note: The author is a technical writer who works under the Cherokee Nation Strategic Programs contract. Information in this article is adapted from that provided by Johns Hopkins University and the National Safety Council.

Cold stress and keeping warm

Whether you ski, snowmobile, sled or snowshoe, keeping warm and preventing cold stress is key to staying safe and comfortable.

Cold stress happens when skin and subsequent internal body temperature drops. The body is not able to warm itself and serious cold-related illness or injury can take place. These may include hypothermia, frostbite, trench foot and chilblains, which can cause permanent tissue damage or even death.

Several contributing factors to cold stress include near-freezing or freezing temperatures, wind chill, wet or damp clothing, dressing improperly for conditions and poor physical conditioning. Predisposed health conditions include hypertension, diabetes and hypothyroidism.

One of the best defenses against cold stress is wearing the right clothing. Tight clothes reduce blood circulation to the extremities. Insulate your body with a water-repellant shell and several layers of loose clothing underneath. Cover your head to prevent upper-body heat loss and protect your ears and face. Wear warm gloves and boots that are waterproofed and insulated. If possible, have a change of dry clothes, carry hot packs and bring a thermos full of warm liquid.

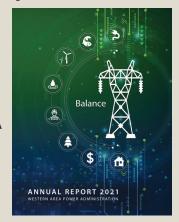
For more information on several types of cold stress, their symptoms and first-aid treatment, see the "NIOSH Fast Facts: Protecting Yourself from Cold Stress" fact sheet in the November issue of *Safety Works*, available on myWAPA.

Sources: Occupational Safety and Health Administration and the National Institute for Occupational Safety and Health

FY 2021 Annual Report available

APA's fiscal year 2021 Annual Report, Balance, is now available.

As the world was shaped – and is continuing to be shaped – by the effects of COVID-19, WAPA embraced the concept of balance as a key way of embodying strength, resilience, unity and leadership.



The report focuses on

just a few of WAPA's many accomplishments in FY 2021.

"We had to balance the needs and safety of employees with the needs of WAPA, especially regarding COVID-19 and workplace access," said Administrator and CEO **Tracey LeBeau** in her opening letter. "We had to balance the requests of our customers with one another and with the needs of our system, now and in the future."

Read the full report at wapa.gov, The Source, Annual Reports



Drought, adverse conditions intranet page live

ystemic drought, poor hydrology and other adverse weather conditions are some of WAPA's most significant concerns going into 2022.



Employees are encouraged to learn more about the situation and what WAPA is doing with

customers and generating agencies to alleviate drought and preserve the value of hydropower at the new Drought and Other Adverse Conditions intranet page.

Visit the page at myWAPA, Employee Resources, Initiatives, Drought and Other Adverse Conditions



Happy winter holidays!

The Closed Circuit team wishes you and yours a happy and safe winter holiday season.

We appreciate your readership and your support in making our magazine as great as it can be, and we look forward to bringing you more exciting content in the new year.



Closed Circuit wants you

The 2022 *Closed Circuit* publication calendar is now available. Copy deadlines are always the 15th of each month. Please make a note of them so that you can ensure your news and announcements make it into the appropriate issue.

As always, Closed Circuit encourages participation from all levels across WAPA. If you are interested in writing for the magazine, pitching story ideas or providing other content, get in touch with Public Affairs Specialist **Philip Reed** at reed@wapa.gov

Closed Circuit is looking forward to having you!

Issue	Copy due	Published
January	Dec. 15	Jan. 15
February	Jan. 15	Feb. 15
March	Feb. 15	March 15
April	March 15	April 15
May	April 15	May 15
June	May 15	June 15
July	June 15	July 15
August	July 15	Aug. 15
September	Aug. 15	Sept. 15
October	Sept. 15	Oct. 15
November	Oct. 15	Nov. 15
December	Nov. 15	Dec. 15